```
=> s ruminant(p)methionine

          1339 RUMINANT
          1525 RUMINANTS
          2018 RUMINANT
                 (RUMINANT OR RUMINANTS)
         12947 METHIONINE
           213 METHIONINES
         12968 METHIONINE
                 (METHIONINE OR METHIONINES)
L1          87 RUMINANT(P)METHIONINE

=> s l1 and methylthiobutanoic acid

            21 METHYLTHIOBUTANOIC
        438291 ACID
        243455 ACIDS
        450204 ACID
                 (ACID OR ACIDS)
            20 METHYLTHIOBUTANOIC ACID
                 (METHYLTHIOBUTANOIC(W)ACID)
L2           0 L1 AND METHYLTHIOBUTANOIC ACID

=> s ?(methylthio)butanoic acid

MISSING OPERATOR '?(METHYLTHIO'
YOU HAVE RECEIVED THIS ERROR MESSAGE  2 CONSECUTIVE TIMES
The search profile that was entered contains terms or
nested terms that are not separated by a logical operator.
IF YOU REQUIRE FURTHER HELP, PLEASE CONTACT YOUR LOCAL HELP DESK
=> s ?methylthiobutanoic

L3          21 ?METHYLTHIOBUTANOIC

=> s l3 and 426/clas

         44488 426/CLAS
L4           0 L3 AND 426/CLAS

=> s methionine and 426/clas

         12947 METHIONINE
           213 METHIONINES
         12968 METHIONINE
                 (METHIONINE OR METHIONINES)
         44488 426/CLAS
L5         778 METHIONINE AND 426/CLAS

=> s l5 and ruminant

          1339 RUMINANT
          1525 RUMINANTS
          2018 RUMINANT
                 (RUMINANT OR RUMINANTS)
L6         142 L5 AND RUMINANT

=> s l6 and computer model?

        211236 COMPUTER
```

```
         53756 COMPUT[redacted]
        224341 COMPUT[redacted]
                  (COMPUTER OR COMPUTERS)
        206058 MODEL?
          2419 COMPUTER MODEL?
                  (COMPUTER(W)MODEL?)
L7           0 L6 AND COMPUTER MODEL?

=> s l6 and optimiz?(5a)milk

        114685 OPTIMIZ?
         26698 MILK
           809 MILKS
         26898 MILK
                  (MILK OR MILKS)
            27 OPTIMIZ?(5A)MILK
L8           0 L6 AND OPTIMIZ?(5A)MILK

=> s optimiz?(5a)milk and 424/clas

        114685 OPTIMIZ?
         26698 MILK
           809 MILKS
         26898 MILK
                  (MILK OR MILKS)
            27 OPTIMIZ?(5A)MILK
         43091 424/CLAS
L9           3 OPTIMIZ?(5A)MILK AND 424/CLAS

=> d l9 1-3


1.  5,707,819, Jan. 13, 1998, Diagnosis of Mycobacterium bovis infection;
Paul Richard Wood, et al., 435/7.32; 424/190.1; 436/811; 530/395, 820
[IMAGE AVAILABLE]

2.  5,635,401, Jun. 3, 1997, Method to detect hormone treatment in
animals; Vitaly L. Spitsberg, et al., 436/23; 424/535; 436/20, 22,
86, 87 [IMAGE AVAILABLE]

3.  4,839,171, Jun. 13, 1989, Composition for treating impaired
lactation; Martin J. Nelson, 424/529, 195.1; 426/630, 647, 657,
807; 514/2, 21, 892 [IMAGE AVAILABLE]

=> s optimiz?(5a)milk and 426/clas

        114685 OPTIMIZ?
         26698 MILK
           809 MILKS
         26898 MILK
                  (MILK OR MILKS)
            27 OPTIMIZ?(5A)MILK
         44488 426/CLAS
L10          9 OPTIMIZ?(5A)MILK AND 426/CLAS

=> d l10 1-9


1.  5,795,611, Aug. 18, 1998, Human infant formulas containing
recombinant human alpha-lactalbumin and beta-casein; Charles W. Slattery,
426/580, 585, 801; 435/69.1 [IMAGE AVAILABLE]

2.  5,739,407, Apr. 14, 1998, Human .beta.-casein, process for producing
it and use thereof; Sven Bergstrom, et al., 800/7; 426/580, 590,
648, 657, 801; 435/320.1; 530/361; 536/23.5, 24.1; 800/18, 25
```

```
=> s ruminant and methionine and milk

          200 RUMINANT
         3151 METHIONINE
        62297 MILK
L1          0 RUMINANT AND METHIONINE AND MILK

=> s optimiz? milk production

         5542 OPTIMIZ?
        62297 MILK
        61156 PRODUCTION
L2          0 OPTIMIZ? MILK PRODUCTION
              (OPTIMIZ?(W)MILK(W)PRODUCTION)

=> file wpids

COST IN U.S. DOLLARS                                SINCE FILE      TOTAL
                                                       ENTRY    SESSION
FULL ESTIMATED COST                                     0.40       0.55

FILE 'WPIDS' ENTERED AT 15:30:15 ON 16 SEP 1998
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FILE LAST UPDATED: 11 SEP 1998              <19980911/UP>
>>>UPDATE WEEKS:
MOST RECENT DERWENT WEEK            199836   <199836/DW>
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                                  SEE HELP COST FOR DETAILS <<<
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=> s ruminant and methionine and milk

          1344 RUMINANT
          3077 METHIONINE
         25389 MILK
L3           7 RUMINANT AND METHIONINE AND MILK

=> d l3 1-7


L3   ANSWER 1 OF 7  WPIDS   COPYRIGHT 1998 DERWENT INFORMATION LTD
AN   96-344011 [35]   WPIDS
DNC  C96-109267
TI   Aminoacid compsn. for increasing milk protein in animals -
     comprises Gp. I and Gp. II essential aminoacid(s) in same
     proportions as in milk protein, esp. useful in cheese
     mfr..
DC   B05 C03 D13
IN   BEEVER, D; LOBLEY, G; MACRAE, J C; METCALF, J
PA   (UKAG-N) UK MIN AGRIC FISHERIES & FOOD; (UKAG-N) UK MIN FISHERIES &
     FOOD
CYC  66
PI   GB 2297485  A  960807 (9635)*      24 pp    A61K031-195
     WO 9623421  A1 960808 (9637)  EN   28 pp    A23K001-16
        RW: AT BE CH DE DK EA ES FR GB GR IE IT KE LS LU MC MW NL OA PT
```

SD SE SZ UG
W: AM AT AU BG BR BY CA CH CN CZ DE DK EE FI GB GE HU IS
JP KE KG KP KR KZ LK LR LT LU LV MD MG MN MW MX NO NZ PL PT
RO RU SD SE SG SI SK TJ TM TT UA UG US UZ VN
AU 9645461 A 960821 (9648) A23K001-16
ADT GB 2297485 A GB 96-2117 960202; WO 9623421 A1 WO 96-GB227 960202; AU 9645461 A AU 96-45461 960202
FDT AU 9645461 A Based on WO 9623421
PRAI GB 95-2131 950203
IC ICM A23K001-16; A61K031-195
ICS A23K001-18; A23K001-22; A61K038-17

L3 ANSWER 2 OF 7 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
AN 96-321062 [32] WPIDS
DNC C96-102155
TI **Ruminant** feedstuff with good heat stability and rumen by-pass properties - contains active agent, e.g. aminoacid, dispersed in amorphous calcium salt of fatty acid mixt. as protectant.
DC B05 C03 D13
IN AOKI, I; MARUYAMA, H; SASAOKA, S
PA (NIPS) NIPPON SODA CO
CYC 1
PI US 5532008 A 960702 (9632)* 14 pp A23K001-18
ADT US 5532008 A Cont of US 91-768251 911015, CIP of US 93-4355 930114, CIP of US 93-73025 930607, US 95-424029 950418
PRAI US 95-424029 950418; US 91-768251 911015; US 93-4355 930114; US 93-73025 930607
IC ICM A23K001-18

L3 ANSWER 3 OF 7 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
AN 96-045306 [05] WPIDS
DNC C96-014999
TI A central nerve stabiliser for ruminants - contains lysine as active component.
DC B05 C03 D13
PA (AJIN) AJINOMOTO KK
CYC 1
PI JP 07309750 A 951128 (9605)* 8 pp A61K031-195
ADT JP 07309750 A JP 95-66007 950324
PRAI JP 94-56258 940325
IC ICM A61K031-195
ICS A23K001-16; A23K001-18; C07C229-26; C07C323-58

L3 ANSWER 4 OF 7 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
AN 94-256782 [32] WPIDS
CR 94-286927 [36]
DNC C94-117344
TI Increasing amino acid levels in **ruminant** animals - comprises feeding the animals with a rumen-protected amino acid, partic. lysine and/or **methionine**.
DC C03 D13
IN FUJIEDA, T; SATO, H; JULIEN, W E; RODE, L M; SUZUKI, H
PA (SATO-I) SATO H; (RODE-I) RODE L M; (AJIN) AJINOMOTO CO INC; (AJIN) AJINOMOTO KK
CYC 11
PI EP 610957 A2 940817 (9432)* EN 21 pp A23K001-16
R: DE DK FR GB IT NL SE
CA 2115199 A 940813 (9438) A23K001-18
CA 2115681 A 940817 (9439) A23K001-18
JP 06237701 A 940830 (9439) 12 pp A23K001-18
JP 06237702 A 940830 (9439) 15 pp A23K001-18
EP 610957 A3 950802 (9613) A23K001-16
CN 1091905 A 940914 (9716) A23K001-16
CN 1096627 A 941228 (9719) A01K067-02

US 5720970 A 980224 (9815) 16 pp A23K001-18
ADT EP 610957 A2 EP [redacted]-102243 940214; CA 2115199 A C[redacted]4-2115199 940208; CA 2115681 A CA [redacted]-2115681 940215; JP 06237701 A [redacted] 93-24256 930212; JP 06237702 A JP 94-18543 940215; EP 610957 A3 EP 94-102243 940214; CN 1091905 A CN 94-101589 940216; CN 1096627 A CN 94-102789 940209; US 5720970 A Cont of US 93-18250 930216, US 95-427718 950421
PRAI US 93-18250 930216; JP 93-24256 930212; US 95-427718 950421
IC ICM A01K067-02; A23K001-16; A23K001-18
ICS A23K001-00

L3 ANSWER 5 OF 7 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
AN 90-352470 [47] WPIDS
DNC C90-153099
TI Improvement in amino acid absorption of **ruminant** - by giving oral dose of liq. compsn. contg. at least one amino acid to **ruminant**.
DC B05 C03 D13
PA (NIPK) NIPPON KAYAKU KK
CYC 1
PI JP 02255047 A 901015 (9047)*
JP 2627660 B2 970709 (9732) 2 pp A23K001-18
ADT JP 02255047 A JP 89-76451 890330; JP 2627660 B2 JP 89-76451 890330
FDT JP 2627660 B2 Previous Publ. JP 02255047
PRAI JP 89-76451 890330
IC A23K001-18; A61K031-19
ICM A23K001-18
ICS A23K001-16; A61K031-19; A61K031-195; A61K031-405; A61K031-415

L3 ANSWER 6 OF 7 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
AN 89-301837 [42] WPIDS
DNC C89-133433
TI **Ruminant** feed additive - comprises core of basic aminoacid carbamate coated with polymer coating soluble in acidic media.
DC A14 A96 B05 C03 D13
IN ITAGAKI, T; KOBAYASHI, T; MIYAKE, M; OKADA, H; SATOU, H; TOSA, T
PA (AJIN) AJINOMOTO KK; (MITU) MITSUBISHI KASEI CORP
CYC 7
PI EP 336987 A 891018 (8942)* EN 14 pp
R: DE FR GB NL SE
DK 8802002 A 891013 (8951)
US 4937083 A 900626 (9028)#
US 4976976 A 901211 (9101)#
ADT EP 336987 A EP 88-105818 880412; US 4937083 A US 88-178602 880407; US 4976976 A US 89-369052 890621
PRAI EP 88-105818 880412
IC A23K001-18

L3 ANSWER 7 OF 7 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
AN 85-013582 [03] WPIDS
TI Using **methionine** salts in the nutrition of ruminants - to ensure that **methionine** passes into the blood stream to give good growth, **milk** prodn., wool and fur.
DC C03 D13
IN KOCH, F; SPINDLER, M; TANNER, H
PA (DEGS) DEGUSSA AG
CYC 13
PI EP 130281 A 850109 (8503)* DE 14 pp
R: AT BE CH DE FR GB IT LI LU NL SE
DE 3323508 A 850110 (8503)
JP 60019454 A 850131 (8511)
DK 8401429 A 840908 (8513)
ADT EP 130281 A EP 84-103508 840330; DE 3323508 A DE 83-3323508 830630; JP 60019454 A JP 84-129412 840625
PRAI DE 83-3323508 830630; FR 83-3684 830307
IC A23K001-18; A61K031-19

=> d ab 1-7

L3 ANSWER 1 OF 7 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
AB GB 2297485 A UPAB: 960905
Amino acid compsn. (C) for admin. to animals to increase the concn. of protein in **milk** produced by that animal comprises 3 amino acids (AA) selected from Gp. I essential AA comprising **methionine**, tyrosine, phenylalanine, histidine or tryptophan. Also claimed are: (A) **milk** with increased protein concn. obtd. as above, and (B) dairy prods. obtd. from **milk** as above.

(C) comprises 4 or 5 Gp. I essential AA and 4 (pref. 5 or 6) Gp.II essential AA comprising threonine, valine, isoleucine, leucine, lysine or arginine. AA are present in (C) at approx. the following relative concn. (which is the same as in **milk** protein): **methionine** (10.7), tyrosine (0.4), phenylalanine (36.7), histidine (10.2), tryptophan (5.5), threonine (16.5), valine (24.9), isoleucine (22.4), leucine (36.7), lysine (31.0) or arginine (12.8). (C) is substantially free of non-essential AA. The AA are provided in a carrier, esp. physiological saline or water. 1 AA are provided as precursors that protect the AA against metabolism in the gut or liver. The AA are coated or bound with a coating or binder to make them resistant to degradation in the rumen of **ruminant** animals. The coating or binder is proteinaceous and has been treated with an aldehyde. 1 AA are provided as peptides to enhance their uptake from the gut.

USE - (C) is useful for the prodn. of **milk** with increased protein concn. in **milk**-producing animals, partic. bovine female. The **milk** is esp. useful in cheese mfr. and in areas with restricted **milk** prodn. (C) is administered orally or parenterally using a catheter, after feeding the animal on low protein content feed material over a period of time.

ADVANTAGE - Unlike prior art methods, (C) increases **milk** protein effectively.
Dwg.0/0

L3 ANSWER 2 OF 7 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
AB US 5532008 A UPAB: 960819
A **ruminant** feedstuff comprises a biologically active agent (I) dispersed in a protectant (II) consisting of an amorphous divalent metal salt of mixed fatty acids.

The feedstuff has a void ratio of 1-15% and a moisture content of not more than 2 wt.%, and is pref. a granulated blend of (I) and (II).

(I) is an aminoacid (pref. **methionine**, tryptophan or lysine), vitamin (pref. vitamin A, D3 or E, nicotinic acid or beta-carotene), aminoacid hydroxy homologue, enzyme, carbohydrate or veterinary drug. The mixed fatty acids of (II) are natural fats or oils with m.pt. 30-50deg. C. (II) is a calcium salt, pref. with free Ca(OH)2 content not more than 5 wt.%. The compsn. additionally contains a hydrophobic substance which is mutually soluble with (II), selected from 8-24C (un)satd. fatty acid(s), monoglycerides of the fatty acids, 12-hydroxystearic acid and higher alcohols.

USE - (I) typically accelerates growth, improves **milk** quality, increases **milk** prodn., improves hair quality, prevents diseases (e.g. during parturition and lactation) or provides treatment of diseases, in ruminants such as cattle and sheep.

ADVANTAGE - The feedstuff has good heat stability, rumen by-pass properties and digestive/absorption properties in the abomasum and intestine. Esp. an excellent balance is obtd. between the rumen by-pass and abomasum/intestine digestive/absorption

properties.
Dwg.0/5

L3 ANSWER 3 OF 7 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
AB JP07309750 A UPAB: 960205
Stabiliser contains lysine as the active component. Also claimed are a feed additive for ruminants contg. lysine, lysine of a form protected from the action of the first stomach of a **ruminant** and/or **methionine** as the active components, a method for feeding a **ruminant** in which the nerve stabiliser or the above feed additive is dosed. The **ruminant** is pref. calf, milking cow or a beef cattle.

ADVANTAGE - The stabiliser can inhibit or prevent excitation of a **ruminant** and also improves feed efficiency and **milk** production.

In an example, six Holstein cattles (test group: 3, control group: 3) of 12 months old were selected and L-lysine HCl was dosed to the test group at a level of 10 g/head/day by mixing it in a conc. feed for 4 months. The action of the dosed animals was remarkably stabilised compared to those of the control group with no dose of L-lysine HCl. The pipecolic acid conc. in blood was increased in the dosed group, while it decreased in the control group.
Dwg.0/0

L3 ANSWER 4 OF 7 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
AB EP 610957 A UPAB: 941109
Increasing amino acid levels in **ruminant** animals comprises feeding the animals a rumen-protected feed additive comprising lysine and/or **methionine** each day beginning approx. 3 weeks prior to the scheduled parturition date of the **ruminant** animal and contg. the feeding at most 5 months into the lactation period of the animal.

The rumen-protected feed additive is added to a base feed in an amt. to provide that amt. of lysine and **methionine** required by the animal. The low, middle and high protein feeds contain 10-14 wt.%, 15-16 wt.%, and 17-22 wt.% of protein on dry basis, resp..

USE/ADVANTAGE - The method increases the digestible amino acids available in the feed and positively increases the **milk** prodn. of ruminants who are fed the additive. The method also improves **ruminant** health and appetite. The method can be used with daily cattle, sheep, water buffalo and goats. **Milk** prodn., health and appetite are all improved using the method.
Dwg.0/6

L3 ANSWER 5 OF 7 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
AB JP02255047 A UPAB: 930928
A method for the improvement in amino acid absorption of **ruminant** in which a liq. compsn. contg. at least one of amino acid is dosed orally to a **ruminant**.

USE/ADVANTAGE - Growth and **milk** amt. of **ruminant** can be improved.

In an example, each 100 mg of DL-**methionine** (I), L-lysine (II) and L-threonine (III) per kg body weight of sheep of 50 kg body weight are dosed as a mixt. in a defined amt. of feed. Concns. of (I), (II) and (III) in blood are respectively 2.6, 9.5 and 23.9 Mmol/de 4 hrs. after dose. The same amts. of them are dissolved in 200 ml water and dosed orally and then a defined amt. of feed is dosed. Their concns. in blood are respectively 11.0, 10.0 and 36.8 Mmol/de 8 hrs. after dose.
0/0

L3 ANSWER 6 OF 7 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
AB EP 336987 A UPAB: 930923

Feed additive for ruminants comprises a core contg. a carbamate of a basic amino acid [redacted]ated with a polymer coating ag[redacted] soluble or swellable in water in an acidic region of max pH 5. Pref. the core also comprises a biologically active material.

USE/ADVANTAGE - The biologically active material is protected on oral admin. so as to prevent decomposition in the rumen while permitting digestion or absorption in the abomasum or subsequent digestive track at high efficiency. The additive is useful for cattle for meat, dairy cows, calves, sheep or goats, partic. for increasing **milk** prodn. in dairy cows.

0/0

L3 ANSWER 7 OF 7 WPIDS COPYRIGHT 1998 DERWENT INFORMATION LTD
AB EP 130281 A UPAB: 930925

Salts or aq. solns. of salts of formula (I) can be used in amts. of 0.01-5 wt.% (calcd. as meltionine and based on the total dry substance of the feedstuff) can be used in the nutrition of ruminants. X is an equivalent of Na, K, NH4, Mg or Ca.

USE/ADVANTAGE - **Methionine** is an important amino acid for ruminants and promotes growth, **milk** production, wool and fur production. **Methionine** is the most 'limited' amino acid in ruminants in that it is well protected against microbial degradation in the rumen on account of its being made 'readily soluble'. Therefore, irrespective of the original composition of the feedstuff, it is mainly digested in the rumen, giving rise to a lack of **methionine**.

0/0

=> d his

(FILE 'HOME' ENTERED AT 15:29:26 ON 16 SEP 1998)

FILE 'FSTA' ENTERED AT 15:29:34 ON 16 SEP 1998
L1 0 S RUMINANT AND METHIONINE AND MILK
L2 0 S OPTIMIZ? MILK PRODUCTION

FILE 'WPIDS' ENTERED AT 15:30:15 ON 16 SEP 1998
L3 7 S RUMINANT AND METHIONINE AND MILK

=> file fsta

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	37.70	38.25

FILE 'FSTA' ENTERED AT 15:33:01 ON 16 SEP 1998
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FILE LAST UPDATED: 16 AUG 1998 <19980816/UP>
FILE COVERS 1969 TO DATE.
NEW NEW >>> FSTA THESAURUS IN FIELD /CT <<<

=> s l3

200 RUMINANT
3151 METHIONINE
62297 MILK
L4 0 RUMINANT AND METHIONINE AND MILK

=> file agricola

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.40	38.65

FILE 'AGRICOLA' ENTERED AT 15:33:14 ON 16 SEP 1998

FILE COVERS 1970 TO 13 Aug 1998 (19980813/ED)

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> s l3

```
          2527 RUMINANT
          4180 METHIONINE
         53476 MILK
L5           2 RUMINANT AND METHIONINE AND MILK
```

=> d l5 1-2

L5 ANSWER 1 OF 2 AGRICOLA
AN 92:71014 AGRICOLA
DN IND92031449
TI Protected D,L-**methionine** increases **milk** yield in dairy cows on a high intake of grass silage.
AU Sem, O.E.; Velle, W.
CS Norwegian College of Veterinary Medicine, Norway
AV DNAL (SF55.A78A7)
SO Asian-Australasian journal of animal sciences, Sept 1989. Vol. 2, No. 3. p. 522-523
Publisher: Suweon, Korea : Asian-Australasian Association of Animal Production Societies.
ISSN: 1011-2367
NTE Paper presented at the "VII International Symposium on **Ruminant** Physiology: Physiological Aspects of Digestion and Metabolism in Ruminants", August 28-September 1, 1989, Sendai, Japan.
Includes references.
DT Article
FS Non-U.S. Imprint other than FAO
LA English

L5 ANSWER 2 OF 2 AGRICOLA
AN 73:105388 AGRICOLA
DN 73-9230743
TI Influence of sulphur amino acid supplementation of a **milk** replacer on blood-free amino acid levels **methionine** requirement of the preruminant calf
Influence de la supplementation en acides amines soufres d'un aliment d'allaitement sur l'amino-acidemie estimation du besoin en **methionine** du veau pre-**ruminant**
AU Patureau-mirand, P; Prugnaud, J; Pion, R
AV DNAL (442.8 AN75)
SO Ann Biol Anim Biochim Biophys, 1973 Vol. 13, No. 2, pp. 225-246.
Ref. Eng. Sum.
DT Journal; Article
LA French

=> d ab 1-2

L5 ANSWER 1 OF 2 AGRICOLA

L5 ANSWER 2 OF 2 AGRICOLA

=> file ca

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	2.40	41.05

FILE 'CA' ENTERED AT 15:35:09 ON 16 SEP 1998
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FILE COVERS 1967 - 12 Sep 1998 (980912/ED) VOL 129 ISS 12

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This file supports REG1stRY for direct browsing and searching of all substance data from the REGISTRY file. Enter HELP FIRST for more information.

=> s l3

	11986	RUMINANT
	55253	METHIONINE
	68325	MILK
L6	85	RUMINANT AND METHIONINE AND MILK

=> s l6 and hydroxy(2a)analog(2a)methionine

	209187	HYDROXY
	127630	ANALOG
	55253	METHIONINE
	240	HYDROXY(2A)ANALOG(2A)METHIONINE
L7	9	L6 AND HYDROXY(2A)ANALOG(2A)METHIONINE

=> d l7 1-9

L7 ANSWER 1 OF 9 CA COPYRIGHT 1998 ACS
AN 99:211478 CA
TI Effects of **methionine hydroxy analog** on **milk** secretion and ruminal and blood variables of dairy cows fed a low fiber diet
AU Ray, Sharon R.; Croom, W. James, Jr.; Rakes, A. H.; Linnerud, A. C.; Britt, J. H.
CS Dep. Anim. Sci., North Carolina State Univ., Raleigh, NC, 27650, USA
SO J. Dairy Sci. (1983), 66(10), 2084-92
CODEN: JDSCAE; ISSN: 0022-0302
DT Journal
LA English

L7 ANSWER 2 OF 9 CA COPYRIGHT 1998 ACS
AN 93:69298 CA
TI Fate of carbon-14 labeled **methionine hydroxy analog** and **methionine** in the lactating dairy cow

AU Belasco, I. J.
CS Biochem. Dep. Ex[redacted] Stn., E. I. du Pont de Nemours [redacted]d Co., Inc., Wilmington, DE, 19898, USA
SO J. Dairy Sci. (1980), 63(5), 775-84
CODEN: JDSCAE; ISSN: 0022-0302
DT Journal
LA English

L7 ANSWER 3 OF 9 CA COPYRIGHT 1998 ACS
AN 83:130398 CA
TI Hydrogenated marine fat as feed supplement. IV. Hydrogenated marine fat in concentrate mixtures for dairy cows
AU Sundstoel, Frik
CS Dep. Anim. Nutr., Agric. Univ. Norway, Aas, Norway
SO Meld. Nor. Landbrukshoegsk. (1974), 53(25), 50 pp.
CODEN: MNLHAT
DT Journal
LA English

L7 ANSWER 4 OF 9 CA COPYRIGHT 1998 ACS
AN 77:73982 CA
TI Free amino acid ratios in rumen fluid, blood plasma, **milk**, and feces during **methionine** and **methionine hydroxy analog** supplementary feeding
AU Whiting, F. M.; Stull, J. W.; Brown, W. H.; Reid, B. L.
CS Dep. Dairy Food Sci., Univ. Arizona, Tucson, Ariz., USA
SO J. Dairy Sci. (1972), 55(7), 983-8
CODEN: JDSCAE
DT Journal
LA English

L7 ANSWER 5 OF 9 CA COPYRIGHT 1998 ACS
AN 77:4144 CA
TI **Methionine hydroxy analog** for lactating dairy cows
AU Holter, J. B.; Kim, C. W.; Colovos, N. F.
CS Dep. Anim. Sci., New Hampshire Agric. Exp. Stn., Durham, N. H., USA
SO J. Dairy Sci. (1972), 55(4), 460-5
CODEN: JDSCAE
DT Journal
LA English

L7 ANSWER 6 OF 9 CA COPYRIGHT 1998 ACS
AN 76:44956 CA
TI Effects of whey components and **methionine** analog on bovine **milk** fat production
AU Rosser, R. A.; Polan, C. E.; Chandler, P. T.; Bibb, T. L.
CS Dep. Dairy Sci., Virginia Polytech. Inst., Blacksburg, Va., USA
SO J. Dairy Sci. (1971), 54(12), 1807-16
CODEN: JDSCAE
DT Journal
LA English

L7 ANSWER 7 OF 9 CA COPYRIGHT 1998 ACS
AN 76:13068 CA
TI Addition of soybeans or **methionine** analog to high-concentrate rations for dairy cows
AU Hutjens, M. F.; Schultz, L. H.
CS Dep. Dairy Sci., Univ. Wisconsin, Madison, Wis., USA
SO J. Dairy Sci. (1971), 54(11), 1637-44
CODEN: JDSCAE
DT Journal
LA English

L7 ANSWER 8 OF 9 CA COPYRIGHT 1998 ACS

AN 73:32925 CA
TI Observations on [redacted]men fluid, blood serum, and mi[redacted]lipids of cows fed **methionine hydroxy analog**
AU Patton, R. A.; McCarthy, Robert D.; Griel, L. C., Jr.
CS Lipids Lab., Pennsylvania State Univ., University Park, Pa., USA
SO J. Dairy Sci. (1970), 53(6), 776-80
CODEN: JDSCAE
DT Journal
LA English

L7 ANSWER 9 OF 9 CA COPYRIGHT 1998 ACS
AN 72:108510 CA
TI Role of **methionine hydroxy analog** in **ruminant** nutrition
AU McCarthy, Robert D.
CS Pennsylvania State Univ., University Park, Pa., USA
SO Feedstuffs (1970), 42(4), 12,52-3
CODEN: FDSTAL
DT Journal
LA English

=> d ab 1-9

L7 ANSWER 1 OF 9 CA COPYRIGHT 1998 ACS
AB Twenty-eight Holstein cows were in a reversal trial to det. effects of adding 34 g/day of **methionine hydroxy analog** (I) [583-91-5] to a low fiber ration. Cows were subjected to this feeding treatment sequence after parturition: days 1 through 28, normal fiber ration; days 29 through 56, low fiber ration; days 57 through 77, low fiber ration with or without 34 g/day of I; days 78 through 98, low fiber ration; days 99 through 119, low fiber ration with or without 34 g/day of (days 57 through 77 treatments reversed). Overall, supplementation with I increased only **milk** fat 6%. After **milk** fat percentage was depressed by low fiber diet, supplementation with I increased **milk** fat percentage only for those cows that initially had <20% decrease of **milk** fat percentage. This enhanced **milk** fat percentage was accompanied by increase of ratio of ruminal acetate/propionate in animals with <10% depression. Supplementation with I had no effect on blood glucose, insulin, or acetate concns. and did not affect uptake of acetate by the mammary gland. Initial **milk** fat prodn. affects the ability of I supplementation to enhance **milk** fat percentage of dairy cattle fed low fiber diets.

L7 ANSWER 2 OF 9 CA COPYRIGHT 1998 ACS
AB 14C-labeled **methionine hydroxy analog** [583-91-5], fed to 2 similar cows, was more resistant to rumen microbial degrdn. than labeled **methionine** [63-68-3], fed to one lactating Holstein cow. The analog gave less respiratory labeled CO2, less radioactivity in rumen solids and volatile fatty acids, and greater persistence in rumen fluid. Supplementation of feeds with hydroxy analog resulted in 2-3 times more radioactivity in **milk**, tissues, blood, and excreta and apparently more labeled **methionine** in blood, **milk**, urine, liver, and kidney. Radiolabeled **methionine** in tissues, **milk**, blood, excreta, and in rumen fluid was evidence for biotransformation of **methionine hydroxy analog** to **methionine** in ruminants. 14C from **hydroxy analog** and **methionine** was incorporated into rumen volatile fatty acids, **milk** fat and lactose, urinary urea, and fecal protein amino acids other then **methionine**.

L7 ANSWER 3 OF 9 CA COPYRIGHT 1998 ACS
AB Feeding hydrogenated marine fat (HMF) increased rumen NH3 [7664-41-7] concn., whereas rumen pH and volatile fatty acids were not markedly affected. Incorporation of HMF into the conc. stimulated **milk** secretion but lowered the **milk** fat percent. Increasing the m.p. of the HMF from 31 to 50.degree. lessened its **milk**-fat depressing effect. HMF also lowered the content of protein, total solids, and energy of the **milk**. Hypomagnesemia sometimes occurred in cows fed HMF. Supplementing a high-fat conc. with 0.4% **methionine hydroxy analog** [52868-62-9] increased the **milk** protein content slightly, while no effect was found on other **milk** constituents or on **milk** yield. HMF increased the resistance of the **milk** to development of oxidized flavor. Incorporating 8% HMF into the conc. C18:2 lowered the proportion of C18:2 and increased the proportion of C18:1 and higher fatty acids in **milk** fat; C18:3 was unaffected. Generally when HMF-supplemented conc. was fed, the proportion of total satd. fatty acids decreased by 4-6% units, whereas total monoenoic fatty acids increased correspondingly. Dietary HMF elevated the fraction of trans fatty acids in **milk**.

L7 ANSWER 4 OF 9 CA COPYRIGHT 1998 ACS
AB Free amino acid ratios in rumen fluid, blood plasma, **milk**, and feces of lactating dairy cows were studied following the feeding of four experimental concentrates: (A) basal; (B) basal plus 0.11% DL-**methionine**; (C) basal plus 0.11% **methionine hydroxy analog** (M-**analog**); and (D) basal plus 0.22% M-analog. Free threonine was increased in rumen fluid by supplementation with the higher M-analog. No significant changes were detected in the proportions of any of the free amino acids of blood plasma. **Methionine** and lower M-analog supplementation increased aspartic acid and valine in free amino acids of **milk**. There was a close similarity between proportions of free lysine, glutamic acid, arginine, proline, tyrosine, and phenylalanine in rumen fluid and in **milk**. The proportions of other free amino acids in rumen fluid and **milk** were not similar. There was no similarity between proportions of free amino acids in blood with those in rumen fluid or in **milk**. Exptl. concs. had no effect on the free amino acid content of feces. There was no significant relation between free fecal amino acids and the free amino acid content of rumen fluid, blood plasma, or **milk**. **Milk** yield, body wt., or the digestibility of feed did not change significantly.

L7 ANSWER 5 OF 9 CA COPYRIGHT 1998 ACS
AB Lactating Holstein cows were paired according to expected solids-corrected **milk** production and randomly assigned to control or **methionine hydroxy analog** treatments. Hay, corn silage (treated with 0.5% urea), and pelleted conc. (contg. 0.5% urea), either with or without the analog (0.357%), were fed. Treatment continued from 2 weeks prepartum to 24 weeks postpartum. During the 6th and 10th week postpartum, pairs of cows were subjected to digestibility and energy (indirect respiration calorimetry) and N balance trials. Cows supplemented with **methionine hydroxy analog** produced more **milk** fat, esp. during weeks 1-12, while feed consumption and yields of **milk** (actual) and solids-not-fat were not significantly affected. **Methionine hydroxy analog** increased digestibility of fiber and fat but not protein, increased urinary N loss, reduced dietary N retention, and increased methane energy loss. Proportion of dietary gross energy and total N secreted in **milk** was not affected by treatment. Evidence is presented for higher maintenance energy requirement and higher efficiency of conversion of metabolizable

energy to **milk** w[redacted] **methionine** was included in the diet. The d[redacted] are consistent with enhanced [redacted]men microbial activity, but the specific mechanism by which **methionine** increases **milk** fat yield needs further clarification.

L7 ANSWER 6 OF 9 CA COPYRIGHT 1998 ACS
AB Effects of substituting either 10% partially delactosed whey, 10% hydrolyzed whey, 5% lactose, or 5% whey mineral-protein into a pelleted conc. which supplied 86% of the total ration were compared in 20 lactating cows. In a 2nd period, variables were increased 1.5-fold in an unpelleted ration. Most effective recovery of **milk** fat was assocd. with partially delactosed whey followed by whey mineral-protein feeding. **Milk** fat increased in all groups when the cows were changed to an unpelleted conc. Expt. II in 2 parts compared the effects of partially delactosed whey and **methionine** analog with 24 lactating cows. A high-conc. ration was compared with the same conc. contg. 15% of the whey during treatment Period A. In Period B several cow groups of Period A were switched to a different treatment. Treatments were control, 15% partially delactosed whey, and 40 g of **methionine** analog added per day. **Milk** fat percent was enhanced by the whey in Period A and was assocd. with a relative increase in ruminal butyrate. In the 2nd phase, **methionine** analog resulted in more **milk** fat relative to appropriate controls. Ruminal butyrate was higher for both the whey and analog fed cows. Triglycerides were higher in the serum dextran sulfate precipitable lipoproteins of the control cows relative to the whey or analog fed cows. In expt. III, cows received 85% intake as conc. Treatments were control, 15% partially delactosed whey in conc., and 40 g per day of **methionine** analog. Partially delactosed whey and **methionine** analog increased the relative amts. of ruminal acetate and butyrate and decreased ruminal propionate. Ruminal volatile fatty acid differences were not reflected in **milk** fat content. Arteriovenous differences indicate that the whey and the analog may enhance triglyceride transport into the mammary gland.

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AB Twelve lactating cows were used in two trials. In each trial, control rations were compared with the addn. of **methionine hydroxy analog** or ground soybeans. In trial (1), the conc.-to-roughage ratio was 3:1 whereas in trial (2) it was 2:1. In trial (1), addn. of soybeans resulted in a significant decrease in **milk** production (18.3 vs. 15.4 kg/day) and **milk** fat percent (2.5 vs. 1.8%). Wt. percents of rumen acetate and butyrate were significantly decreased, while those of propionate increased significantly. There was a marked increase in the unsatn. of circulating lipids as well as **milk** fat. Some scouring and feed refusals occurred during soybean feeding. Feeding **methionine hydroxy analog** decreased butyric acid concn. in the rumen; no other tested component was altered. In trial (2), feeding soybeans slightly increased **milk** fat percent compared to controls (3.8 vs. 3.6%). Soybeans did not alter **milk** yield or rumen volatile fatty acid patterns. No deleterious side effects were observed. **Methionine hydroxy analog** had no significant effect on **milk** fat test, yield, circulating lipids, or rumen volatile fatty acid percents.

L7 ANSWER 8 OF 9 CA COPYRIGHT 1998 ACS
AB Twelve dairy cows were assigned to each of three groups which received either 0, 40, or 80 g of **methionine hydroxy analog** per day in their grain. **Milk** and fat yields were increased by supplementation. **Milk** fat of supplemented cows compared to that of the

controls contain[redacted] more of the 18-C fatty acids a[redacted] less of the short-chain fatty acids. Cows receiving **methionine hydroxy analog** had more blood serum lipids, but there were only minor differences in the compn. of these lipids between the 3 groups. Feeding of **methionine hydroxy analog** decreased the free fatty acids in rumen fluid and apparently promoted the formation of an unidentified polar lipid. The relative proportion of stearic acid was lower in the rumen fluid of those cows fed **methionine hydroxy analog**.

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AB During highly active physiol. states, such as rapid growth or heavy **milk** production, animals experience **methionine** insuffi-ciency. This condition can be partially alleviated by sup-plementation of the diet with **methionine hydroxy analog** (I). I increases the concn. of protozoa in the rumen and stimulates lipid synthesis by the microorganisms in the rumen. The host animal subsequently digests the microorganisms and absorbs I and other nutrients from the small intestine. The proper dietary level of I has not been detd.

and non-structural carbohydrates in feedstuffs; James E. Nocek, 436/20, 71, 86, 94, 95, 908 [IMAGE AVAILABLE]

7. 4,615,891, Oct. 7, 1986, Method of formulating dairy cow rations based on carbohydrate regulation; James E. Nocek, et al., 426/231, 623, 636, 807 [IMAGE AVAILABLE]

8. 4,118,513, Oct. 3, 1978, Method of formulating **dairy cattle rations**; Darwin G. Braund, et al., 426/2, 623, 630, 636, 807 [IMAGE AVAILABLE]

9. 3,875,304, Apr. 1, 1975, LIVESTOCK FEED COMPOSITION AND METHOD OF PREPARING THE SAME; Lenard A. Hunt, et al., 426/31, 54, 74, 807 [IMAGE AVAILABLE]

[IMAGE AVAILABLE]

3. 5,487,913, Jan. 30, 1996, Butter products; Robert N. Fackrell, et al., **426/663, 583, 586, 603** [IMAGE AVAILABLE]

4. 5,468,513, Nov. 21, 1995, Honey products; Robert N. Fackrell, et al., **426/663, 580, 581, 583, 586, 587, 604** [IMAGE AVAILABLE]

5. 5,158,791, Oct. 27, 1992, Method of formulating dairy cow rations based on rumen-available protein and rumen-available carbohydrate; James E. Nocek, et al., **426/231, 623, 630, 636, 807** [IMAGE AVAILABLE]

6. 5,133,978, Jul. 28, 1992, High viscosity bacterial compositions and methods; Wesley D. Sing, **426/36, 34, 38, 42, 43** [IMAGE AVAILABLE]

7. 4,839,171, Jun. 13, 1989, Composition for treating impaired lactation; Martin J. Nelson, 424/529, 195.1; **426/630, 647, 657, 807**; 514/2, 21, 892 [IMAGE AVAILABLE]

8. 4,615,891, Oct. 7, 1986, Method of formulating dairy cow rations based on carbohydrate regulation; James E. Nocek, et al., **426/231, 623, 636, 807** [IMAGE AVAILABLE]

9. 4,118,513, Oct. 3, 1978, Method of formulating dairy cattle rations; Darwin G. Braund, et al., **426/2, 623, 630, 636, 807** [IMAGE AVAILABLE]

=> s dairy cattle ratio?

```
          7026 DAIRY
           488 DAIRIES
          7367 DAIRY
                 (DAIRY OR DAIRIES)
         10399 CATTLE
            64 CATTLES
         10438 CATTLE
                 (CATTLE OR CATTLES)
        591270 RATIO?
L11          9 DAIRY CATTLE RATIO?
                 (DAIRY(W)CATTLE(W)RATIO?)
```

=> d l11 1-9

1. 5,767,080, Jun. 16, 1998, Enhanced milk production in dairy cattle; James F. Beck, et al., 514/12; 119/174 [IMAGE AVAILABLE]

2. 5,225,230, Jul. 6, 1993, Method for preparing a high bypass protein product; Donald W. Seaman, et al., 426/634, 656 [IMAGE AVAILABLE]

3. 4,835,185, May 30, 1989, Immunomodulator for improving commercial performance of domestic animals; Steven L. Nissen, 514/557 [IMAGE AVAILABLE]

4. 4,758,593, Jul. 19, 1988, Method of feeding ketoisocaproate to lactating domestic mammals; Steven L. Nissen, 514/557 [IMAGE AVAILABLE]

5. 4,737,365, Apr. 12, 1988, Method of feeding cattle to improve protein utilization; Edwin W. Meyer, 426/2, 74, 454, 623, 630, 807 [IMAGE AVAILABLE]

6. 4,617,276, Oct. 14, 1986, Novel method for quantitating structural